

CLAIMS

1. A liquid discharge device having a liquid discharge
head in which a plurality of liquid discharge portions
5 including
a liquid chamber for storing a liquid to be
discharged,
flying force supplying means disposed within said
liquid chamber, for providing the liquid within said liquid
10 chamber with flying force, and
a nozzle formation member forming a nozzle for
discharging the liquid stored in said liquid chamber by
actions of said flying force supplying means,
are arrayed on a substrate, said liquid discharge
15 device comprising:
individual channels provided for each of said liquid
discharge portions so as to communicate with said liquid
chamber and supply liquid to within said liquid chamber; and
a common channel provided to said plurality of
20 individual channels so as to communicate with each of said
plurality of individual channels, for supplying liquid to
said plurality of individual channels;
said common channel including
a first common channel provided on a liquid supply
25 source side, parallel to arrayed rows of said nozzles, and

parallel to the discharge direction of the liquid, and
a second common channel provided adjacent to and
communicating with said individual channels, and having
liquid channel resistance greater than that of said first
5 common channel.

2. The liquid discharge device according to Claim 1,
wherein the channel cross-sectional area of said second
common channel perpendicular to the supply direction of said
10 liquid is formed smaller than the channel cross-sectional
area of said first common channel perpendicular to the
supply direction of said liquid, thereby setting the channel
resistance of said second common channel greater than the
channel resistance of said first common channel.

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3. The liquid discharge device according to Claim 1,
wherein at least a part of said second common channel is
configured of at least a part of said liquid discharge head.

20 4. The liquid discharge device according to Claim 1,
wherein said second common channel is formed such that the
channel resistance as to the movement direction of liquid to
the plurality of individual channels with which said second
common channel communicates is generally constant.

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5. The liquid discharge device according to Claim 1,
wherein a plurality of said liquid discharge heads are
provided, and said second common channels of said plurality
of said liquid discharge heads are formed so as to have
5 generally the same channel resistance.

6. The liquid discharge device according to Claim 1,
wherein said second common channel is formed so as to have
generally the same channel direction as said individual
10 channels.

7. The liquid discharge device according to Claim 1,
wherein at least a part of said second common channel is
disposed on a face of said substrate where said individual
15 channels are provided.

8. The liquid discharge device according to Claim 1,
wherein at least a part of said second common channel is
disposed on a face of said substrate where said individual
20 channels are provided, and further formed of the same
material as the material configuring said liquid discharge
portions or said individual channels.

9. The liquid discharge device according to Claim 1,
25 wherein said substrate has a face perpendicular to or

generally perpendicular to a face where said individual
channels are provided, with at least a part of said second
common channel using said perpendicular or generally
perpendicular face as one wall face of said second common
5 channel.

10. The liquid discharge device according to Claim 1,
wherein a part of said second common channel is disposed on
a face of said substrate where said individual channels are
10 provided, and wherein said substrate has a face
perpendicular to or generally perpendicular to a face where
said individual channels are provided, with at least a part
of said second common channel using said perpendicular or
generally perpendicular face as one wall face of said second
15 common channel.